NATIONAL MULTI-SENSOR PRECIPITATION ESTIMATES WEB-BASED EXPERIMENTAL SERVICE

Part I - Mission Connection

a. Product Description - The National Weather Service (NWS) collects rainfall data to support its forecast and warning operations. Individual River Forecast Centers (RFCs) and Weather Forecast Offices typically provide rainfall collectives in text format and graphical format for their areas of responsibility. This service provides unified precipitation estimates for the continental United States (CONUS) and Puerto Rico on the Internet. The service includes graphics that display these precipitation data, as well as the ability to download the information in GIS and netCDF formats.

This suite of graphics includes precipitation for the last day, last 7-days, last 14-days, month-to-date, and year-to-date. Monthly and yearly archives will be maintained. Except for the 1-day duration, graphics of the normal precipitation, percent of normal precipitation, and departure from normal will be generated. Note that other durations may be made available in the future.

b. Purpose - Quantitative Precipitation Estimates (QPE) Graphics are representations of rainfall that has occurred for a specific length of time. Currently, each office prepares its QPE graphics using different colors, precipitation thresholds, and geographic projections. By producing these graphics centrally, it will enable the public to compare data across the CONUS and Puerto Rico.

Parameter-Elevation Regressions on Independent Slopes Model (PRISM) climate data from a cooperative venture between Oregon State University and the United States Department of Agriculture-Natural Resources Conservation Service provides a grid format of normal precipitation. More information about PRISM can be found at http://www.ocs.oregonstate.edu/prism/docs/przfact.html.

c. Audience - The target audience for these graphics is wide ranging. Partners, such as the Army Corps of Engineers, the U.S. Geological Survey, the Federal Emergency Management Agency, the U.S. Department of Agriculture, the National Park Service, state emergency managers, and river authorities have areas of responsibility that span states and often River Forecast Centers. The centralized location of these graphics makes it easy for these partners to view precipitation data for a wide area. Water resources managers and climatologists can use the departures/percent of normal information for drought monitoring and climatological applications. Use will not be limited to those

interested in large areas, however. Local emergency managers and the general public will also use these graphics to evaluate conditions at the local level.

d. Presentation Format - The Precipitation Graphics are web-based graphics, and can be viewed at the following URL:

http://www.srh.noaa.gov/rfcshare/precip_analysis_new.php

The information can also be downloaded in GIS and netCDF formats.

e. Feedback Method - We are always seeking to improve our services based on user feedback. Comments regarding the National Multi-Sensor Precipitation service should be sent to the feedback email address on the graphics webpage.

Comments may also be provided to:

Arkansas-Red River Forecast Center
10159 E. 11th Street, Suite 300
Tulsa, Oklahoma 74128-3050
Attn: Ken Pavelle
918-832-4109
SR-TUA.Precip@noaa.gov

Experimental Feedback Period: November 14, 2005 through June 16, 2006.

Part II - Technical Description

a. Format and Science Basis - Rainfall data (gage) are collected from cooperative observers and data collection networks such as GOES Data Collection Platforms and Automated Surface Observing Systems (ASOS). Hourly precipitation estimates from WSR-88D NEXRAD radar are compared with gage precipitation and satellite-derived estimates to derive a multi-sensor precipitation estimate. Using 24-hour multi-sensor precipitation files generated at the CONUS RFCs, software written in C is used to prepare the web-ready precipitation suite for the CONUS and Puerto Rico. Web browsers using standard Hypertext Markup Language (HTML) can be used to display these graphics. A sample graphic is shown in Figure 1. Users can also download the observed precipitation information in shapefile and netCDF formats for use in their projects or research.

b. Product Availability - The Precipitation Graphics are routinely updated twice daily.

c. Additional Information - Please click on the " About NWS Precip Analysis'' tab at the top of the graphics webpage.

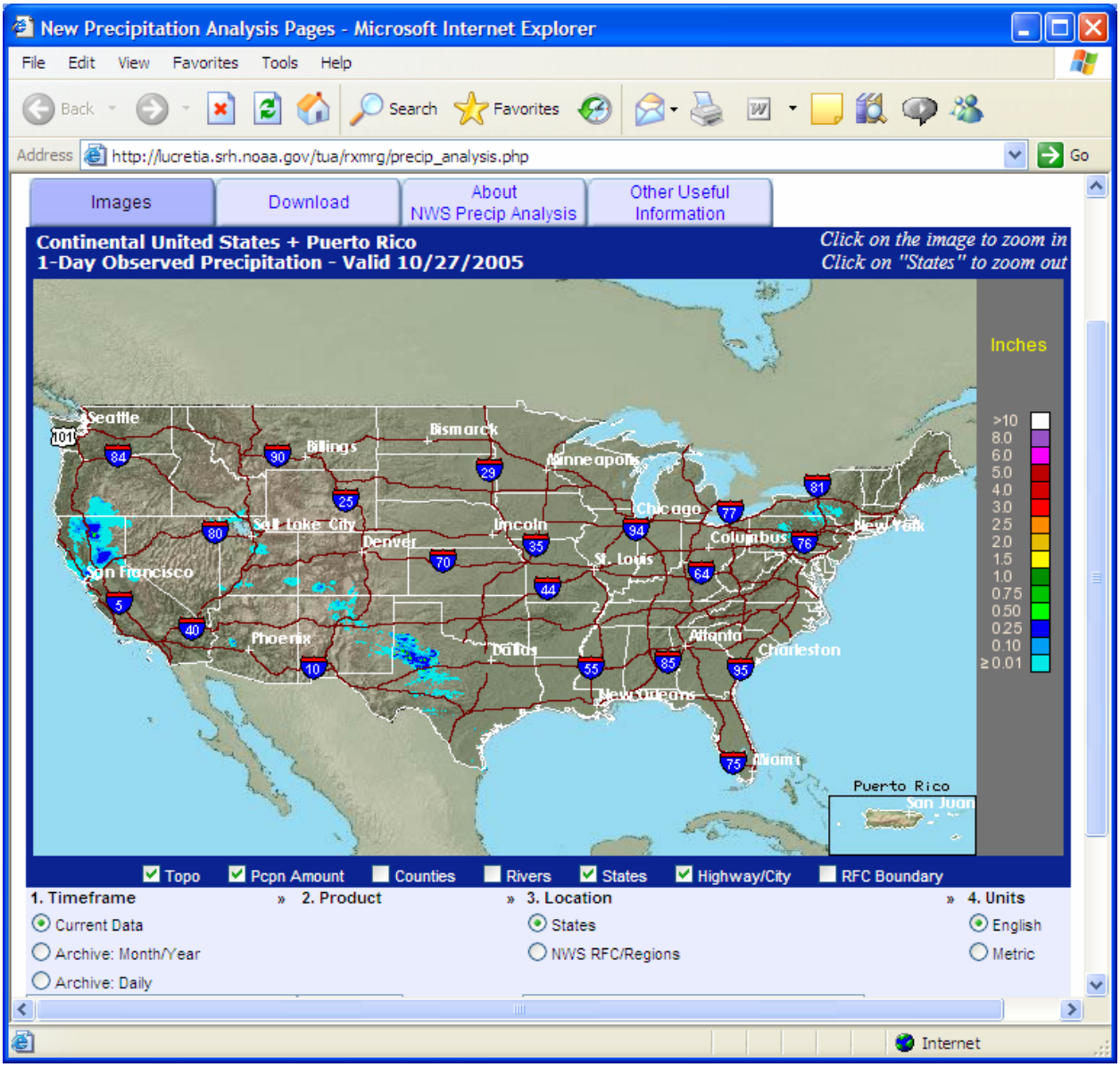

Figure 1. Screen capture showing estimated precipitation for October 27, 2005